

Notice of Allowability

Application No.

09/937,579

Examiner

Kevin S Wood

Applicant(s)

HEITMANN ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Preliminary Amendments filed 20 December 2001 and 11 September 2003.
2. ☒ The allowed claim(s) is/are 9-16.
3. ☒ The drawings filed on 20 December 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1 <input type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No. <u>1003</u> |
| 5 <input type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

Ben Healy

DETAILED ACTION

Response to Amendment

1. This Office Action is responsive to the Preliminary Amendments filed 20 December 2001 and 11 September 2003. Claims 1-8 have been canceled. New claims 9-16 were added and later amended. Claims 9-16 are pending.

Allowable Subject Matter

2. Claims 9-16 are allowed.
3. The following is an examiner's statement of reasons for allowance:

Referring to claims 9 and 10, the prior art does not disclose the combination of all the limitations of the claimed method. Specifically, the prior art does not disclose the a method for compensating for the dispersion of co-transmitted optical signals having different wavelengths that includes a series of photonic crystals where each photonic crystal reflects only a single wavelength of an optical signal, and the optical signal being acted upon by negative dispersion up to the point where each wavelength is reflected or deflected by each respective photonic crystal. U.S. Patent No. 6,373,609 to Mizrahi discloses all the limitations of the claimed invention of claim 9, except the reference utilizes gratings instead of photonic crystals to reflect or redirect each wavelength of the optical signal.

Referring to claims 11-16, the prior art does not disclose the combination of all the limitations of the claimed invention. Specifically, the prior art does not disclose an arrangement for compensating for the dispersion of co-transmitted optical signals

having different wavelengths that includes a series of photonic crystals, where each photonic crystal reflects only a single wavelength of an optical signal, and a path length of the optical signal being acted upon by negative dispersion up to the point where each wavelength is reflected or deflected by each respective photonic crystal. U.S. Patent No. 6,373,609 to Mizrahi discloses all the limitations of the claimed invention of claim 11, except the reference utilizes gratings instead of photonic crystals to reflect or redirect each wavelength of the optical signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent Application Publication No. 2003/0030870 to Joannopoulos et al.

U.S. Patent Application Publication No. 2002/0172456 to Hosomin et al.

Each of these references discloses photonic crystals being used for dispersion compensation. However, neither reference discloses that photonic crystals are used to reflect or divert a single wavelength.

U.S. Patent Application Publication No. 2002/0034360 to Ishii

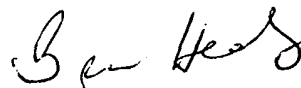
U.S. Patent No. 6,373,609 to Mizrahi

Each of these references a series of gratings where each grating is used to reflect or divert a single wavelength of an optical signal, while the path length of the light signal is acted upon by negative dispersion for the purpose of altering or canceling the positive dispersion of the optical signal. However, neither reference discloses that photonic crystals are used to reflect or divert a single wavelength.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S Wood whose telephone number is (703) 605-5296. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 307-0956.



KSW